

Abstract

The invention concerns a voltage-controlled oscillator with an LC-resonant circuit, in particular for implementing integrated voltage-controlled oscillators for the lower GHz range.

The object of the invention is to propose a voltage-controlled oscillator with an LC-resonant circuit with which it is possible to achieve continuous frequency tunability in a wide range in particular with a low level of phase noise and phase jitter.

In accordance with the invention that object is attained in that, in a voltage-controlled oscillator with an LC-resonant circuit there can be periodically switched in parallel and/or in series with at least one inductor a further inductor by way of a switching means actuated with the oscillator frequency and that a control input of the switching means is connected to a variable dc voltage. In that respect the relationship of the duration of the conducting state and the duration of the non-conducting state of the switching means is variable within an oscillation period of the oscillator in dependence on the value of the control voltage. In accordance with the relationship of the duration of the conducting state and the duration of the non-conducting state of the switching means within an oscillation period of the oscillator the time-averaged effective inductance is variable in dependence on the value of the control voltage.